MODEL 6850 ORTHOPEDIC SURGERY TABLE

PROfx

MAINTENANCE and REPAIR MANUAL

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IMPORTANT NOTICES

CAUTION:
To ensure safe operation of the equipment, please READ THESE INSTRUCTIONS COMPLETELY and keep this manual readily available to OR personnel for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the equipment or described in this manual.

In this manual, the WARNING symbol is intended to alert the user to the presence of important operation, maintenance, or safety instructions.

Dans ce manuel, le symbole AVERTISSANT est projeté d'alerter l'utilisateur à la présence d'opération importante, l'entretien, ou les instructions de sûreté.

WARNING

Proper preoperative and intra-operative procedures must be followed to prevent venous stasis and pooling, pressure sore development, neuropathy, improper electro surgical tissue grounding, hypertension and hypothermia.

AVERTISSANT

Preoperative propre et les procédures dans opératifs doivent être suivis pour empêcher venous stasis et pooling, la pression développement endolori, la neuropathie, electro déplacé mettre à terre de tissu chirurgical, l'hypertension et hypothermia.

NOTE:
The application techniques outlined in these instructions are the manufacturer's suggested techniques. The final disposition of each patient's care as related to the use of this equipment rests with the attending physician.

This device is to be used by trained professional personnel only.

Classification and Table Rating

The tables listed above are considered *Class I Exempt* and has a rating of *IPX-0.*

PROTECTION AGAINST ELECTRICAL SHOCK HAZARD:

This symbol **indicates this equipment is an applied part TYPE B and is generally suitable for applications involving external or internal contact with the patient, excluding the heart. The patient circuit is connected to protective earth and this equipment should be connected only to outlets with a protective earth ground.**

LA PROTECTION CONTRE LE DANGER DE CHOC ELECTRIQUE:

Ce symbole **indique que cet équipement est un B DE TYPE de partie appliqué et est généralement convenable pour les applications contact impliquant, externes ou internes avec le malade, excluant le coeur. Le circuit patient est connecté à la terre protective et cet équipement devrait être seulement connecté aux sorties avec un sol de terre protectif.**

WARNING:

If the integrity of the external protective earth conductor is in doubt, the equipment shall be operated from its internal electrical power source (battery).

AVERTISSANT:

Si l'intégrité de l'externe protectif terre est en doute, l'équipement sera opéré de son interne électrique pouvoir (pile).

This symbol indicates an external ground stud that is required for use when the AC power cable is not connected to a protective earth ground outlet in your operating room or facility.

To protect the patient, hospital staff and the table from any possible hazards, an external ground wire connection is required between the external ground stud and protective earth ground.

1.0 INTRODUCTION

1.1 General Description

The model 6850 PROfx Pelvic Reconstruction Orthopedic Trauma Table (6850 Table) is designed to safely hold a patient in the proper position undergoing orthopedic or surgical procedures.

It is a stand-alone, single-pedestal electrically operated table designed to position a patient in a prone, lateral or supine position during surgical procedures. The table has three primary electrically powered functions. Up/down, left/right lateral roll, Trendelenburg/Reverse Trendelenburg tilt. Electromechanical actuator-motors perform these motions.

The table is controlled by means of a hand pendant control with functions clearly labeled. Positive floor locks are employed to stabilize the table in the operating location.

Figure 1: 6850 Table, right-side view.

1.2 Specifications

The table is designed to safely hold up to a 450-pound patient in the proper procedural position at any point within its physical range. The table has a height range of 30 to 40 inches. The width of the tabletop is 21 inches. The length of the tabletop is 62 inches. With leg spars is 125 inches. The lateral roll range is +/- 20 degrees and the Trendelenburg range is +/- 15 degrees. The maximum deflection of the tabletop under full load is less than 1 inch at the cantilever end. The tabletop has a radiolucent equivalency of less that 1-mm of aluminum. The input power requirement is 110 VAC, 60Hz or 230 VAC AC 50 Hz as indicated on the table label. This is a Class 1 exempt type B Medical Device with an IPX-0 rating, 10% duty cycle or 6 minutes per hour.

1.3 Shipping

The 6850 Table must be shipped using appropriate Shipping Crate (OSI part number [p/n] 6800-400) and Shipping Instructions (p/n NW0408). During shipment the 9650 Table is to be kept in an environment within the following limits:

1. Ambient temperature -20 degrees C to + 50 degrees C
2. Relative humidity from 10% to 100%, including condensation
3. Atmospheric pressure from 50 to 110 kPa

1.4 Storage

When not in use the table should be stored in a clean dry environment with temperature between 32°F & 120°F.

To insure the battery is always fully charged and ready for use. The table should be stored with the power plug inserted and attached to an appropriate power source (110VAC or 220VAC) and the Power Switch turned “ON”.

2.0 CONTROLS IDENTIFICATION

2.1 Table Orientation

The major components of the 6850 Table are identified below. The table is described as having a "head end" and a "foot end". The On/Off Switch, Floor Lock buttons and the Power Cord are located at the "head end" of the table.

Figure 2: Right-side View with Patient

2.2 Major Controls Location

The Control Panel, On-Off Power Switch, Power Cord receptacle and Model Number/Serial Number identification label are located at the head-end of the table.

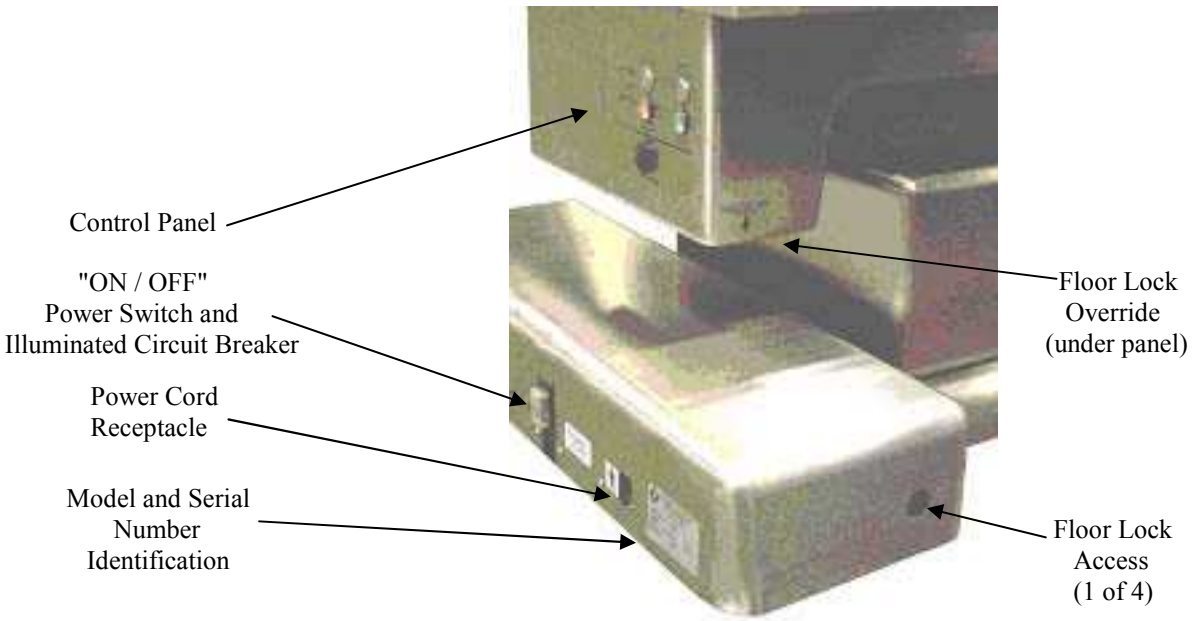


Figure 3: Head-end, Base and Control Panel

2.3 Control Panel Identification

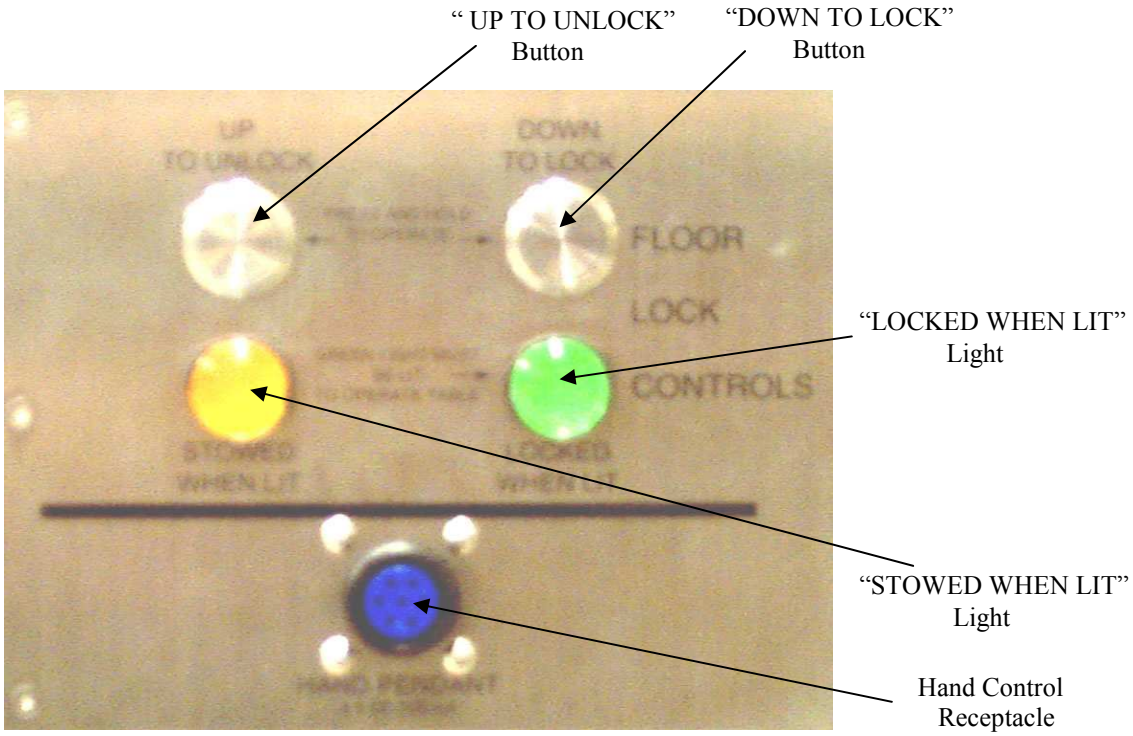


Figure 4: Control Panel and Floor Lock Controls

3.0 INSPECTION

3.1 Acceptance and Transfer

1. Upon receipt of your 6850 Table, remove any protective wrapping or packaging. Visually inspect all surfaces for freight damage. Check each caster for proper rolling operation.

NOTE: *Any freight damage must be reported to the freight carrier immediately upon delivery. It is the responsibility of the recipient to make freight damage claims.*

2. Read the Model/Serial Number Identification Label found at the head end of the base to confirm the serial number and the input power requirements.

3. Place the 6850 Table, with leg spars attached, in an area with at least 4 feet of clearance on all sides.

4. Perform Pre-Operational function check.

3.2 Preoperative

Perform Pre-Operational function check.

3.3 Postoperative

Perform Pre-Operational function check.

3.4 Annually

- Inspect and test the 6850 Table as described Pre-Operational function check. Thoroughly clean the table as described in the CLEANING and MAINTENANCE section of this manual. Pay special attention to the cleanliness of the controls as excessive soil could affect function.

- Inspect for cuts in the insulation or damage to the connector or power cord.

- On a smooth surface, floor locks engaged, push with minimum of 100lbs force. Table should not move.

4.0 PRE-OPERATIONAL FUNCTION CHECK

Perform all steps in this procedure. For a complete definition of reference terms used in this procedure, please refer to the “Glossary of Terms”.

CAUTION: Leg Spars can be damaged if allowed contact with floor. Verify Leg Spars are raised to maximum, are spread beyond parallel, and all lock handles are secured.

LA PRUDENCE: les Perches de Jambe peuvent être endommagées si a permis le contact avec le plancher. Vérifier les Perches de Jambe sont élevées au maximum, sont étalé au delà de parallèle, et toutes poignées de serrure sont obtenues.

1. Plug in the Hand Control cable-connector into the "HAND PENDANT" port on the Control Panel.

2. Plug the power cord into a “hospital grade” power outlet and flip the main “ON/OFF” power switch to "ON". Verify the switch illuminates; this indicates power is applied to the table.

3. Lockout mode:
   3.1. Table is operational when the green “LOCKED WHEN LIT” indicator light, located on the Control Panel is illuminated and the “FLOOR LOCK STATUS ON” indicator light, located on the Hand Control, is illuminated.
   3.2. With Floor Locks raised, verify that the amber "STOWED WHEN LIT" indicator light on the Control panel is illuminated and the “FLOOR LOCK STATUS STOWED” indicator on the Hand Control is illuminated.
   3.3. Verify <u>only</u> the Hand Control operates the Floor Locks when Floor Locks are stowed.

4. Floor lock check using the Control Panel:
   4.1. Press and hold “DOWN TO LOCK” button until green “LOCKED WHEN LIT” light is illuminated. Verify table cannot move on its wheels.
   4.2. Press and hold “UP TO UNLOCK” button until amber "STOWED WHEN LIT" light is illuminated. Verify table is moveable on its wheels.

5. “FLOOR LOCK OVERRIDE" button check:
   5.1. Press and hold "FLOOR LOCK OVERRIDE" button located under Control Panel, press each Hand Control button; Up, Down, Tilt, and Trendelenburg to verify that each function works without Floor Locks engaged (table locked to the floor).

6. Hand Control check; Cycle all button functions below, to their limits.
   6.1. Press and hold "FLOOR LOCK" button. Verify all four locking feet move down and contact the floor and the green "LOCKED WHEN LIT" light illuminates.
   6.2. Press and hold "FLOOR UNLOCK" button. Verify all four locking feet move up and amber "STOWED WHEN LIT" light illuminates.
   6.3. Press and hold "FLOOR LOCK" button to relock table to floor. Verify all four locking feet move down and contact the floor and the green "LOCKED WHEN LIT" light illuminates.
   6.4. Press and hold "HEIGHT UP" button. Verify Tabletop moves up.
   6.5. Press and hold “HEIGHT DOWN" button. Verify Tabletop moves down.
   6.6. Press and hold "REV. TREN" button. Verify head-end of tabletop moves up, foot-end moves down.

6.7. Press and hold "TREN" button. Verify head-end of tabletop moves down, foot-end moves up.
6.8. Press and hold "LEFT LATERAL ROLL" button. Verify Tabletop rolls to the left.
6.9. Press and hold "RIGHT LATERAL ROLL" button. Verify Tabletop rolls to the right.
6.10. Disorient tabletop by raising height minimum six inches, Left or Right Lateral Roll the tabletop and Trendelenburg a minimum of five degrees. Press and hold the "RETURN TO LEVEL" button. Verify Tabletop first levels laterally, levels Trendelenburg, then after a three-second delay, the tabletop moves down.

5.0 BASIC OPERATION

5.1 Control Operation

Plug the Power Cord into the power cord receptacle, located at the head end of the base and into a properly grounded receptacle. Refer to the Model/Serial Number label on the head end of the base for input voltage requirements. Turn "ON" the On-Off power rocker switch (On-Off Power). The green light in the switch illuminates indicating that power is applied to the table. This On/Off Power switch is a combination on/off power switch, circuit breaker and pilot light.

5.2 Floor Lock

The Floor Lock button is located on the Control Panel at the head end of the table or on the Hand Control. To lock the table to the floor, press and hold the “LOCK” button until the Floor Lock is completely deployed. The green “LOCKED WHEN LIT” indicator light will illuminate when it is locked. To release the Floor Lock, press and hold the “UNLOCK” button until the Floor Lock is completely retracted. The green “LOCKED WHEN LIT” light will go dark and the amber “STOWED WHEN LIT” light will illuminate when it is unlocked.

NOTE:
The table will not function until the Floor Lock is completely deployed and green “LOCKED WHEN LIT” light is illuminated.

5.3 Moving the Table

Once the Floor Locks are unlocked the table can be rolled for relocation. It is best that the table be rolled with the Head End forward (Leg Spars trailing).

5.4 Hand Pendant Control

See Figure 5.

The 6800 Table is controlled by means of a Hand Control Pendant (Hand Control). The Hand Control is plugged into the receptacle labeled “HAND PENDANT” on the Control Panel. Plug in Hand Control connector and rotate screw-locking collar until hand tight. To operate any of the desired functions, press and hold the appropriate button on the Hand Control until the desired position is achieved.

The Hand Control is equipped with a "RETURN TO LEVEL" button. This button is used to level first the lateral roll, second the Trendelenburg, and third brings the table to its lowest position. A delay of 3 seconds is expected after the Trendelenburg function before returning to its lowest position.

The controller considers the table to be level if it is within +/- 2 degrees. If the "RETURN TO LEVEL" button is pressed while the table is within this range, it will not move. If it is required to adjust the table to a position closer to zero degrees, press the appropriate function button on the Hand Control until the desired position is achieved.

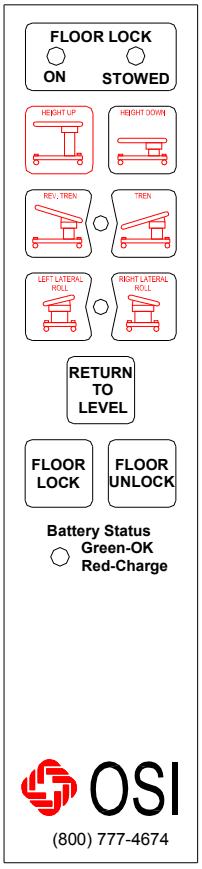


Figure 5: Hand Pendant Control (Hand Control)

5.5 Leg Spars:

The 6850 Table is equipped with two adjustable patient leg spars. Each will articulate horizontally and vertically to accommodate a variety of patient positions and surgical procedures. Additional patient leg rotation and traction is available.

CAUTION: Leg Spars can be damaged if allowed contact with floor during table operation. Clear area of any obstructions or obstacles during table movement.

LA PRUDENCE: les Perches de Jambe peuvent être endommagées si a permis le contact avec le plancher pendant l'opération de table. Eclaircir de n'importe quelles obstructions ou de n'importe quels obstacles pendant le mouvement de table.

Figure 6: 6850 Table with Leg Spars attached.

6.0 THE ELECTRICAL SYSTEM

6.1 Description

The electrical system provides control of all table functions and is comprised of a power cord, an On/Off circuit-breaker switch, wire harnesses, a power supply, a controller circuit, a Hand Control, floor lock jackscrew-actuators, and various electromechanical actuators. The electric motor-driven lead-screw type actuators manipulate the table height; the Hand Control controls lateral roll and trendelenburg functions. The Floor Lock buttons raise and lower the table onto the floor locks. The input power requirement is 120 VAC 60Hz, 6.5 Amp or 230 VAC 50Hz as indicated on the Serial Number label. Refer to 6850 Table Electrical Interconnect Diagram (drawing number 6850-1001).

6.2 On/Off Power Switch

An illuminated On/Off main power switch and circuit breaker is located on the head-end of the table base. When illuminated, it indicates that the table is plugged into a live electrical outlet and the power is on. This switch also serves as a high-voltage 120/240-volt circuit breaker. In the event of an overload condition this switch will trip off. To reset, push circuit-breaker switch to the "OFF" position and then the "ON" position.

NOTE:
Determine the source of the overload prior to resetting this switch.

6.3 Component Circuit Breaker

The electrical system includes individual component 24-volt circuit breakers, located at the head-end of the table base. If a short circuit occurs the low voltage circuit breaker will trip as indicated by a button protruding from the access hole. To reset, press the button in and release.

NOTE:
Determine the source of the overload prior to resetting this button.

6.4 Power Cord

The table is equipped with a detachable standard EIC power cord with the appropriate 120 VAC hospital grade connector (230volt versions do not include the power connector). The power cord is connected to the table at the EIC power entry socket located near the "ON/OFF" switch, at the pedestal end of the table base.

6.5 Leakage Current

The 6850 Table is designed and tested not to exceed 100 micro amps of leakage current.

6.6 Floor Lock System

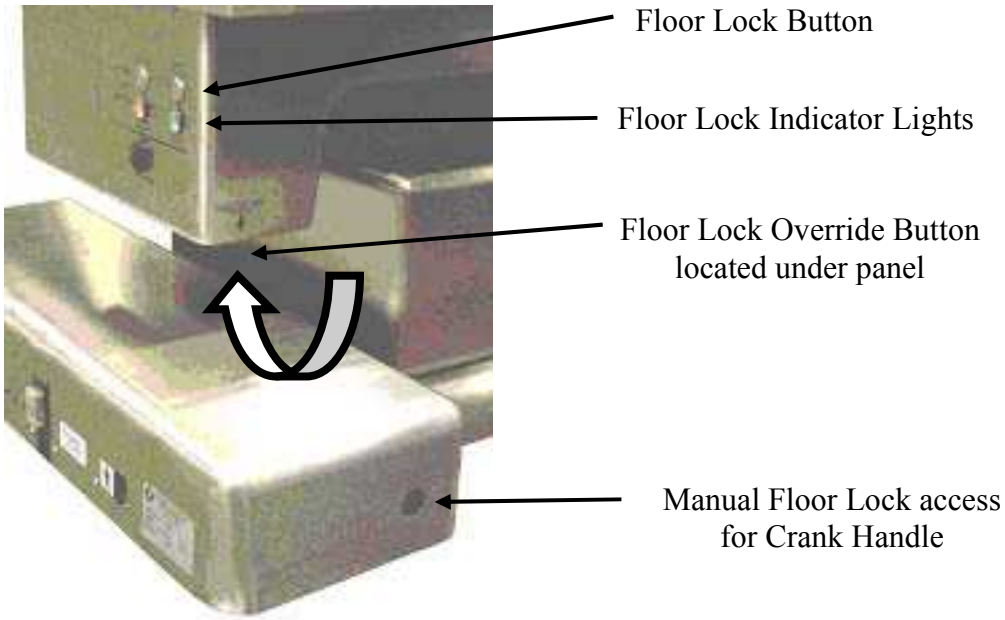


Figure 7: Head-end Base and Control Panel

The Floor Lock System secures the 6850 Table by powering four (4) jackscrews, lowering four legs onto the floor and unloading table weight off of the four swivel casters. The controller monitors each individual Floor Lock for contact with the floor and requires that each Floor Lock be completely engaged before any other table function can be operated. In the case of an uneven floor, it is possible that one or more legs will continue to extend until firm contact is made.

To lock the Floor Lock:
Press and hold the Hand Control "FLOOR LOCK" button or Control Panel "DOWN TO LOCK" button. When locked, the Hand Control "FLOOR LOCK ON" light, and Control Panel, green "LOCKED WHEN LIT" light illuminates, indicating that all four feet are locked.

To unlock the Floor Lock:
Press and hold the Hand Control "FLOOR UNLOCK" button or Control Panel "UP TO UNLOCK" button. When unlocked, the Hand Control "FLOOR LOCK STOWED" light and Control Panel, amber "STOWED WHEN LIT" light illuminates, indicating that all four feet are completely retracted.

"FLOOR LOCK OVERRIDE" Button:
If Floor Lock System fails during table use, press and hold the "FLOOR LOCK OVERRIDE" button while simultaneously operating the desired Hand Control function. Once released, no functions will be operable and this button must be pressed again if subsequent table movement is required.

NOTE: *This Override Button only powers the height, Trendelenburg, and Lateral Roll functions via the Hand Control and is intended for emergency situations only.*

To restore Floor Lock System function:
- Verify Power Cord is plugged into a live power outlet supplying proper voltage and the "ON/OFF" Power Switch is on and illuminated.
- Verify all four Floor Locks are completely engaged and Control Panel, green "LOCKED WHEN LIT" light illuminates.

To manually disengage Floor Lock for table relocation:

1. Use Floor Lock Crank Handle (p/n 6800-230) stowed on sheet metal housing behind Control Panel for each Floor Lock.
2. Remove Floor Lock access hole-plug and insert Crank Handle to engage Floor Lock shaft.
3. For Floor Lock nearest grounding stud/Power Cord, turn Crank Handle clockwise to raise Floor Lock.
4. For all other Floor Locks, turn Crank Handle counter-clockwise to raise Floor Lock.

6.7 Emergency Backup Battery System

The 6850 Table is equipped with an emergency battery backup system. The system batteries are automatically charged while the table is plugged into a proper power source and the ON/OFF power switch is switched "ON".

Battery charge status in shown via a light on the Hand Control labeled "Battery Status".
If illuminated green = OK.
If illuminated red = charge.

Due to the relatively low drains of the 6850 Table, the table could be used only on the backup batteries for up to several hours of continuous use, but are intended for emergency use during loss of power.

If recharge is required, charge a minimum of 3 hours. A full charge should be available after 18 hours.

Both batteries should be replaced every five (5) years or as needed. See Emergency Backup Battery Replacement section.

6.8 Troubleshooting

In the event of a table malfunction:

- Check input power; verify Power Cord is plugged into a live electrical outlet.
- Verify Power Switch is “ON”; the switch illuminates green.
- Verify the Floor Lock is locked to the floor; press the “FLOOR LOCK” button until the green “LOCKED WHEN LIT” light is illuminated.
- Use the “FLOOR LOCK OVERIDE” button to temporarily bypass the interlock of the Floor Lock system.

  NOTE: *This Override Button only powers the height, Trendelenburg, and Lateral Roll functions via the Hand Control and is intended for emergency situations only.*

7.0 CLEANING and MAINTENANCE

7.1 Cleaning and Disinfecting

NOTE: *Never pour any liquid directly onto the table. Never subject the 6850 Table to an equipment washing machine.*

USE OF IODOPHORS WILL CAUSE STAINING.

Table Exterior:

1. Exterior surface should be regularly wiped clean with a mild detergent solution and wiped dry with a soft lint-free cloth.

2. Care should be taken to avoid exposing the table to excessive moisture. Flooding, fogging or steam cleaning is not recommended.

3. Blood or other fluids, etc., if allowed to remain on the table for a long period of time, will require special cleaning to remove. A 5% acetic acid solution or white vinegar and water solution is especially good for this purpose.

4. Cleaning with a good commercial cleaning compound, such as Stainless Steel Magic or Acme White Finish, and then buffing the surface by hand can correct staining and discoloration of plated or stainless steel surfaces only.

5. To disinfect exterior surfaces use a quaternary ammonium or similar type disinfectant compound according to manufacturer's directions for use. Wipe dry with a soft lint-free cloth.

   NOTE: *Failure to thoroughly dry surface after cleaning and disinfecting may result in rust.*

Casters:
Casters should be cleaned and disinfected in the same manner as table exterior. Access to the casters is achieved by removing the sheet metal enclosures at each end of the table base.

NOTE: *Before removing any sheet metal covers the table must be turned off and unplugged. Dangerous high voltage may be present in the circuitry under the covers. Only trained technicians should perform this task.*

7.2 Maintenance

Routine table care will assure many years of trouble-free service.

Lubrication:
All components are lubricated for life at the factory and no other lubrication on the table is necessary.

Preventative Maintenance:
Contact OSI Technical Service for a complete Preventative Maintenance Checklist.

8.0 REMOVAL and REPLACEMENT of COMPONENTS

8.1 Floor-lock Actuator

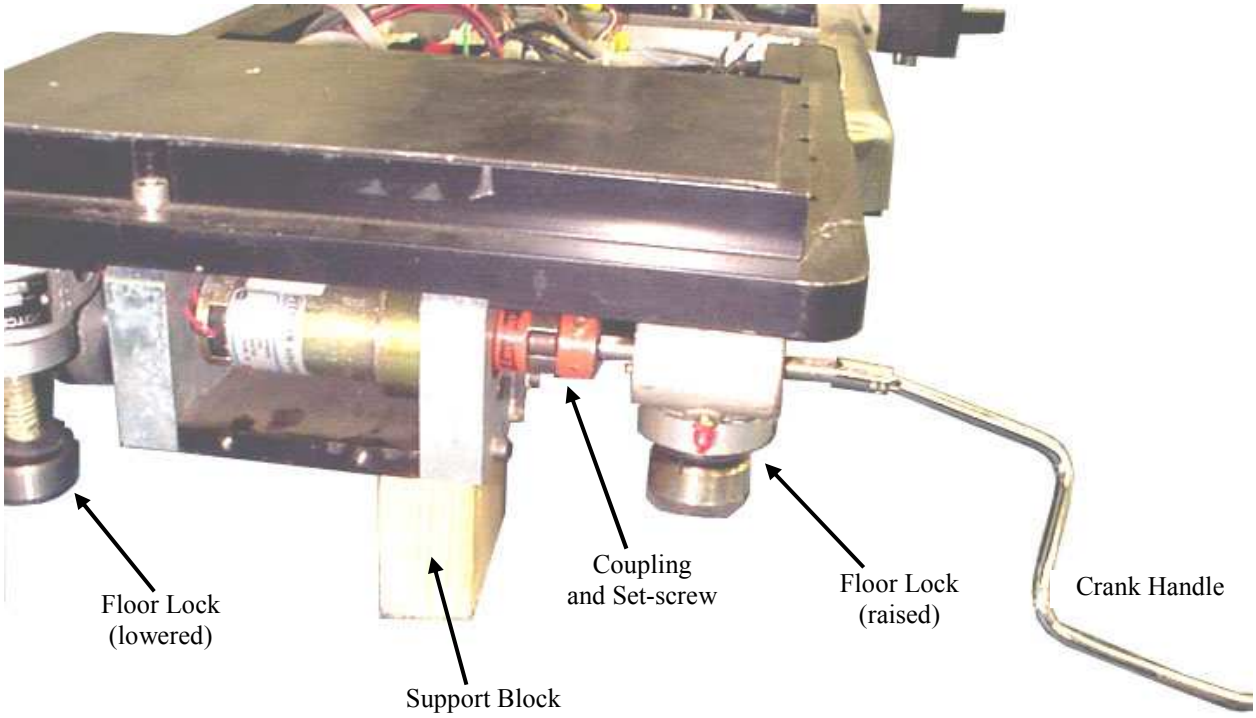


Figure 8: Foot-end Base with cover removed, raised with support block and Crank Handle.

1. Flip on main "ON/OFF" power switch. The switch illuminates, indicating power is to the table.
2. Lock table to floor; Press and hold "DOWN TO LOCK" button until green "LOCKED WHEN LIT" light is on.
3. Flip off main "ON/OFF" power switch. Wait 30 seconds for discharge. Unplug power cord from properly grounded wall outlet.
4. Remove base-access cover from end of table needing floor lock replacement.
   CAUTION: Electrical shock hazard exists with access covers removed; use caution when working in exposed areas.
   LA PRUDENCE: Le danger de choc Electrique existe avec les couvertures d'accès enlevées; la prudence d'usage en travaillant dans les domaines exposés.
   a. Remove two white-plastic access plugs for the Floor Lock using small slotted screwdriver.
   b. Remove four screws attaching the cover using a 1/8-inch hex key.
   c. Remove access cover.
5. Raise end of table using Floor Lock Crank Handle (p/n 6800-230 supplied with table). See photo above.
6. Place 2-1/2 inch high support-block under Floor Lock motor-mount.
7. Carefully lower table onto support-block using Floor-lock Crank Handle.
   CAUTION: Make certain table remains stable.
   LA PRUDENCE: Faire la certaine table restes écurie.
8. Raise Floor Lock off the floor to its maximum height, using Floor-lock Crank Handle.
9. Loosen Floor-lock actuator coupling setscrew using 1/8-inch hex key, slide coupling towards actuator.
10. Remove actuator by removing the two socket-head cap screws using 3/16-inch hex key.

11. Replace Floor-lock Actuator (p/n 6800-217) or Pad (as described below).
12. Reassemble in reverse order.
13. Verify proper function using Pre-Op Function Check.

8.2 Floor-lock Pad

If only the Floor-lock pad requires replacing.

1. Remove Brake Pad (p/n MZC700004B0) by removing M6-1.00 x 20mm socket-head bolt (p/n MZA00206200) using 5mm hex key.
2. If the standard attachment bolt is bent; the first threads may be damaged requiring replacement with an optional, longer M6-1.00 x 35mm (p/n AAM6035CAN).
3. Install replacement Brake Pad with attachment bolt and washer using 5mm hex key.

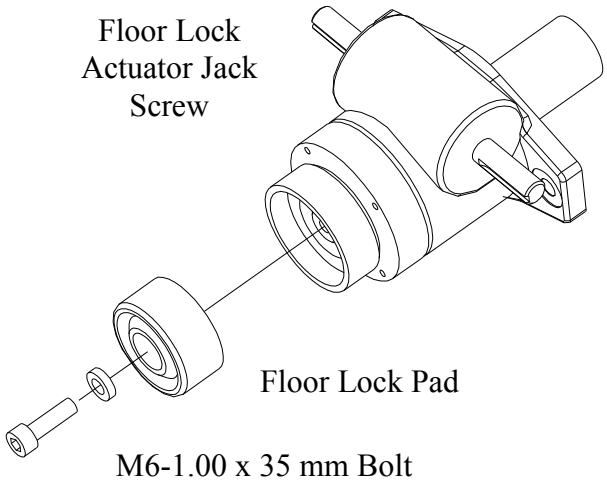


Figure 9: Floor Lock Actuator Assembly.

8.3 Emergency Backup Battery

The following information is on the battery replacement-warning label located inside the battery cover.
If battery fails to hold a charge it should be replaced. Replace only with identical type and size battery. Replace both batteries at the same time. Also replace foam battery blocks on top of battery. Batteries should be replaced once every five (5) years. Whenever this cover is opened, check battery for signs of corrosion. Battery terminals should be clean and free from corrosion, oil, grease, dirt, or other contaminants. Install batteries per included diagram.

WARNING:
Connect batteries only with power cord unplugged and main switch "OFF".

Connect battery terminals as follows:
Red Wire: Positive terminal of battery "A" to terminal E16 on power supply.
Yellow Wire: Negative terminal of battery "A" to positive terminal of battery "B".
Black Wire: Negative terminal of battery "B" to terminal E17 on power supply.

Perform the following test:
Make sure power cord is unplugged.
Turn "ON" main power (utilizing battery power).
Observe all LED lights on Hand Control turn on and off sequentially.
Note: *If this does not happen, turn "OFF" main power immediately and check if connection of battery is correct and Hand Control is fully connected to the receptacle on the table, then try above test again. If this does not solve the problem, contact OSI Technical Support at 800-777-4674 for further assistance.*

When correctly connected and main power switch is "ON" and power cord unplugged, battery status indicator light on Hand Control will show green or red.
A green battery-status light indicates batteries are charged and installed correctly.
A red battery-status light indicates batteries are connected correctly but are in need of charging. Charge for at least three (3) hours by plugging power cord into wall receptacle and turn table power "ON". Make sure green indicator on circuit breaker in on (AC is provided to the charger).

Battery Type: Gel cell LED acid batteries, 12 Volt 12 Amp-hour rating.
Battery Size: 150mm long, 98mm wide, 100mm deep.
Battery OSI ordering number: NVO801
Foam battery block OSI ordering number: 6850-195

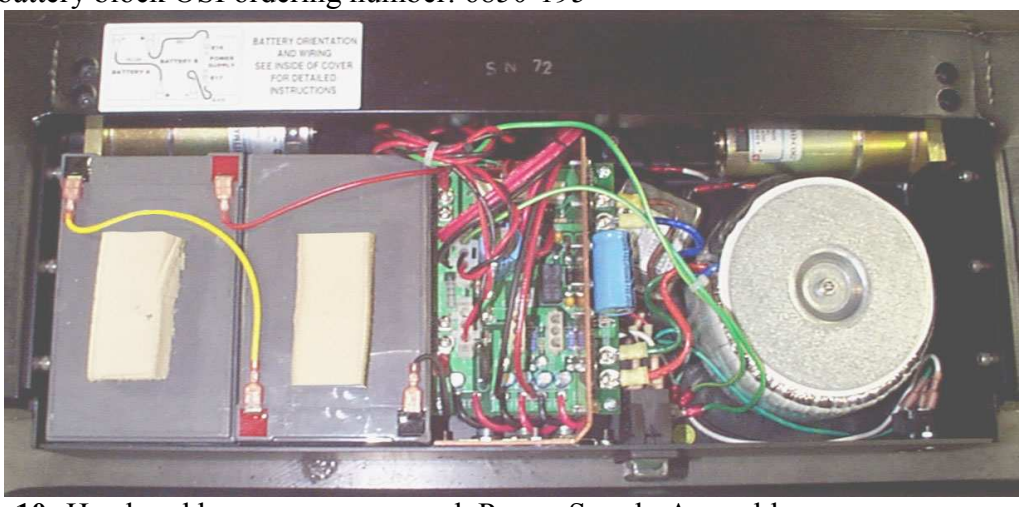


Figure 10: Head-end base, cover removed, Power Supply Assembly

8.4 10 Amp Motor-control PCB

See 9.5 Table Assembly, Exploded View.

1. Flip off the main “ON/OFF” power switch, and wait 30 seconds for discharge. Unplug power cord from wall outlet.
2. Remove foot end base cover by removing the four screws using 1/8 in hex key.
3. Lift off foot end base cover.
4. Unplug cables from 10 Amp Motor-controller PCB. See Interconnect Diagram.
   CAUTION: Cable connectors are not marked, mark as needed.
   a. J1 "TO STEPPER CONTROLLER" -
   b. P1 "TO INTERUPT" - to Stepper Controller/Component Interface.
   c. P2 "TO PC" - no connection.
   d. P3 "KEYPAD" - Extension Cable (p/n NV0564) to Hand Control.
   e. P4 "OUTPUT" - no connection.
   f. P5 "POWER IN" - Power Cable (p/n 6800-274) to DC Power Supply.
   g. P6 - white marked cable to Trendelenburg Actuators.
   h. P7 - to Tilt Sensor Assy. (p/n6800-247).
   i. P8 - blue marked cable to Trendelenburg Actuators.
   j. P10 - orange marked cable to Tilt Actuator.
   k. P11 - to Tilt Sensor Assy. (p/n6800-247).
   l. P12 - yellow marked cable to Vertical Actuator.
   m. P13, P15, P17 - no connection.
   n. P18 "INPUT" - no connection.
   o. P20 – to Power Supply P11, battery feedback monitor.
5. Remove the two #10 socket-head screws attaching the 10 Amp Motor-controller PCB mounting bracket (located under the PCB).
6. Lift the mid-section base cover and remove the two #10 socket-head screws attaching the 10 Amp Motor-controller PCB mounting bracket.
7. Carefully lift out the two #10 socket-head screws attaching the 10 Amp Motor-controller PCB assy.
8. Reassemble in reverse order.

8.5 Power Supply Tray

See 9.5 Table Assembly, Exploded View.

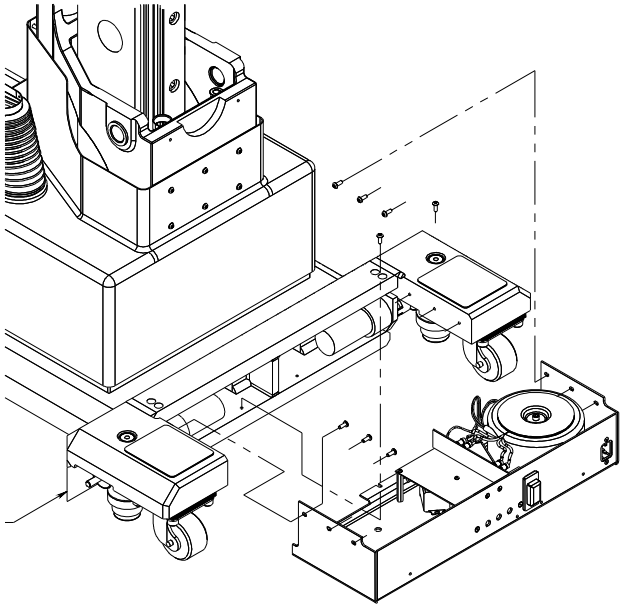


Figure 11: Head-end base with cover removed, Power Supply removal.

1. Flip off the main "On/Off" power switch, and wait 30 seconds for discharge. Unplug power cord from wall outlet.
2. Remove head end base cover by removing the six screws using 1/8 in hex key.
3. Unplug small 3-wire connector P11.
4. Unplug 3-wire connector P 15.
5. Unplug 2-wire connector P 16.
6. Remove 3/8-inch hex bolt from ground stud using 9/16-inch wrench and remove top two green / yellow striped wires.
7. Remove three socket-head screws on each side of power supply tray and loosen two socket-head screws at front of tray using 5/32-inch hex key.
8. Remove Power Supply Tray by carefully lifting out of base casting.
9. Install in reverse order.

8.6 Stepper-controller Tray

See 9.5 Table Assembly, Exploded View.

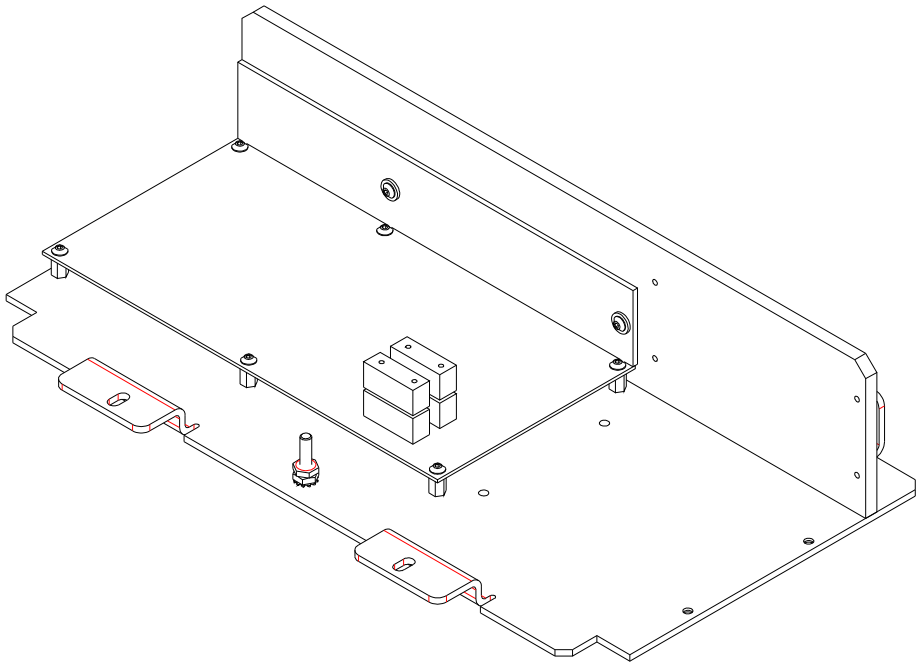


Figure 12: Stepper-controller Tray Assembly

1. Flip off the main "On/Off" power switch, and wait 30 seconds for discharge. Unplug power cord from wall outlet.
2. Remove foot end base cover by removing the six screws using 1/8-inch hex key.
3. Lift off cover.
4. Unplug cables from Stepper Controller PCB. See Interconnect Diagram.

   CAUTION: Cable connectors are not marked, mark as needed.

   LA PRUDENCE: les connecteurs de câble ne sont pas marqués, la marque comme nécessaire.

   a. J1 and J2 - no connection.
   b. P1 - no connection.
   c. P2 - Com Port.
   d. P3 - Power In.
   e. P4 - Power Out.
   f. P6 - Senders
   g. P7 - Analog I/O
   h. P8 - Digital I/O
5. Remove ground wires from the ground stud using 3/8-inch wrench.
6. Remove two socket-head screws attaching the tray, closest to the table pedestal, using 5/16-inch hex key.
7. Loosen two, horizontal, socket-head screws, attaching the tray, using 5/16-inch hex key.
8. Carefully lift out the Controller Tray.
9. Install in reverse order.

8.7 Tilt Sensor-Actuator

1. Flip on main “ON/OFF” power switch. The switch illuminates, indicating power is in the table.
2. Press and hold “DOWN TO LOCK” button until green "LOCKED WHEN LIT" light is lit.
3. Move tabletop to highest position using Hand Control.
4. Flip off main “ON/OFF” power switch. Wait 30 seconds for discharge.
5. Pivot both Leg Spars outward to their maximum limits.
6. Remove left and right Leg Spars per User Guide procedures.

Pivot Frame Cover Removal:
See Figure 13.
1. Remove left and right “Spar Position” crank handles using 1/8-inch hex key.
2. Remove left and right ‘Spar Position Lock” handle-knobs by firmly rotating counter-clockwise.
3. Remove “Accessory Bracket Remove/Attach” crank handle using 3/16-inch hex key.
4. Remove four button-head screws, located at top of cover using 1/8-inch hex key.
5. Carefully remove Pivot Frame Cover.

Left and Right “Pivot Frame Front” Cover Removal:
Not shown, but located at far end from Pivot Frame Cover.
1. Carefully pry off each cover (held in place with double-backed tape).

Left Bell Cover Removal:
See Figure 13.
1. Remove seven flat-head screws, located on top, front and back, using 1/16 hex key.
2. Remove two screws, located on top surface of cover, using 1/8 hex key
3. Remove cover.

CAUTION: To prevent damage to the sensors use care removing or replacing this cover.

LA PRUDENCE: Empêcher des dommages au soin d'usage de détecteurs pour enlever ou remplacer cette couverture.

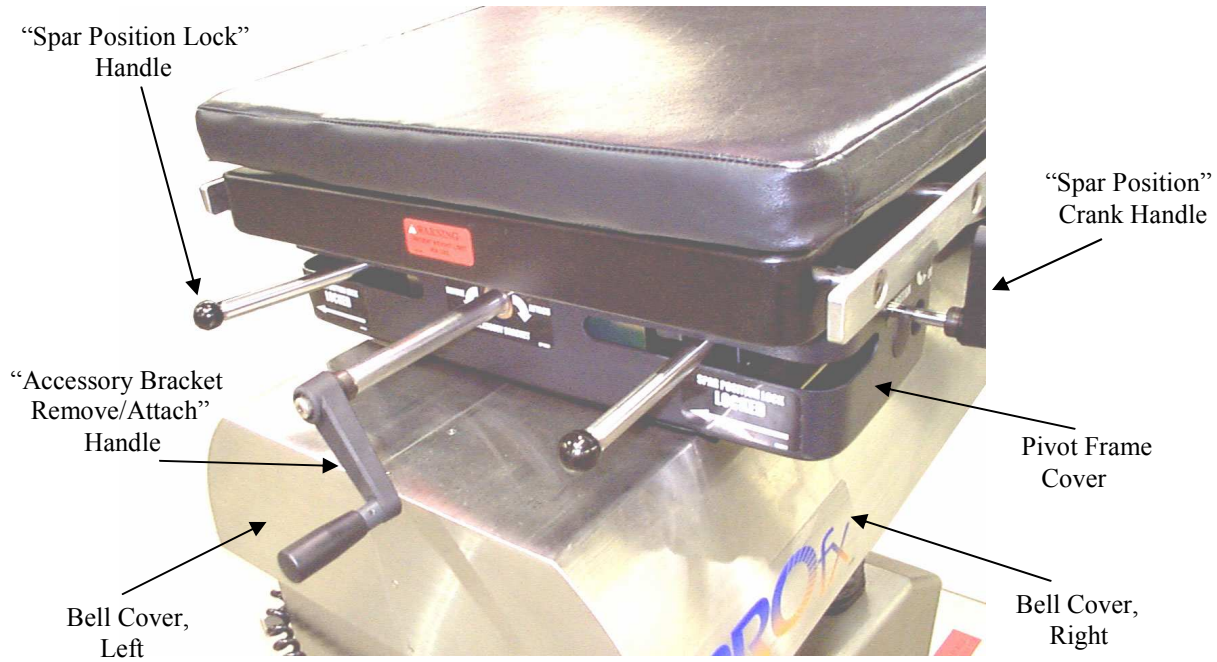


Figure 13: Head-end - Pivot Frame and Bell Covers, Spar Lock Handles.

Tilt Sensor removal:

1. Cut any cable ties holding the existing tilt sensor wire-harness to the tilt sensor bracket.
2. Gently pull the two sets of wires from the tilt sensor.
   NOTE: *The color-coding, white-marked connector into white-marked "Tilt Adjust" socket, black-marked connector into black-marked "Trend Adjust" socket.*
3. Remove original tilt sensor by removing two 1/4-20x1/2 in. cap-head screws using 3/16 hex key.

Replacement Tilt Sensor installation:

1. Using 3/16 hex key, attach the replacement tilt sensor with the two ¼-20 screws.
2. Plug in wire harnesses connecting to tilt sensor. Connect the white shrink-tube-marked connector into white-marked "Tilt Adjust" socket, black shrink-tube-marked connector into black-marked "Trend Adjust" socket.
3. Attach harness to sensor bracket, as needed, with small nylon cable tie. “Do not over tighten wires” Use care to prevent possible damage by moving parts.

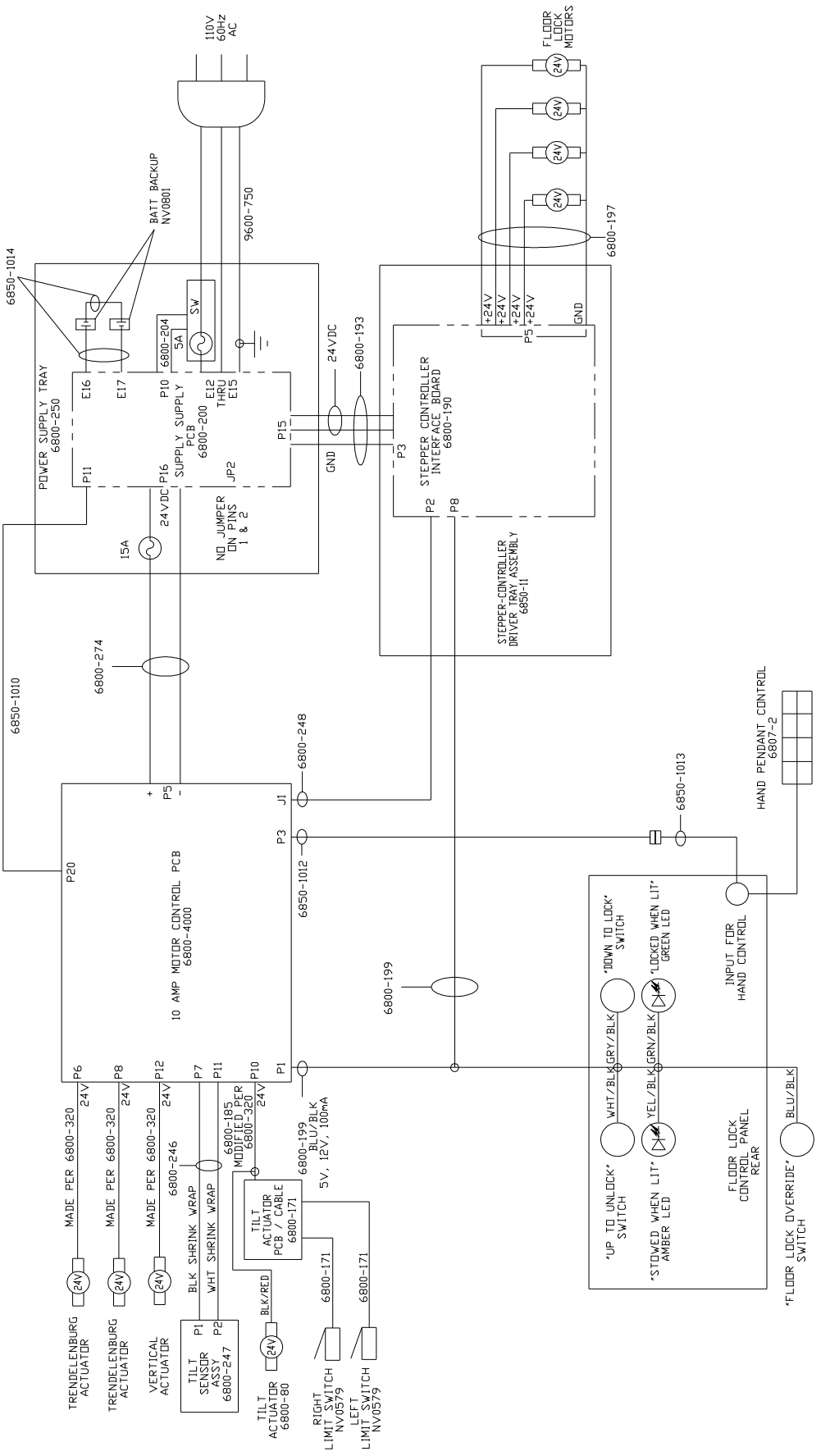
Tilt Sensor Calibration:

NOTE: *Use bubble level, resting on the tabletop, as level gauge. The level sensor adjustment screws are accessed from top of unit. A two-degree maximum dead-band exists for axis. For "Return-to-level" to function, tabletop must be outside of this dead-band.*

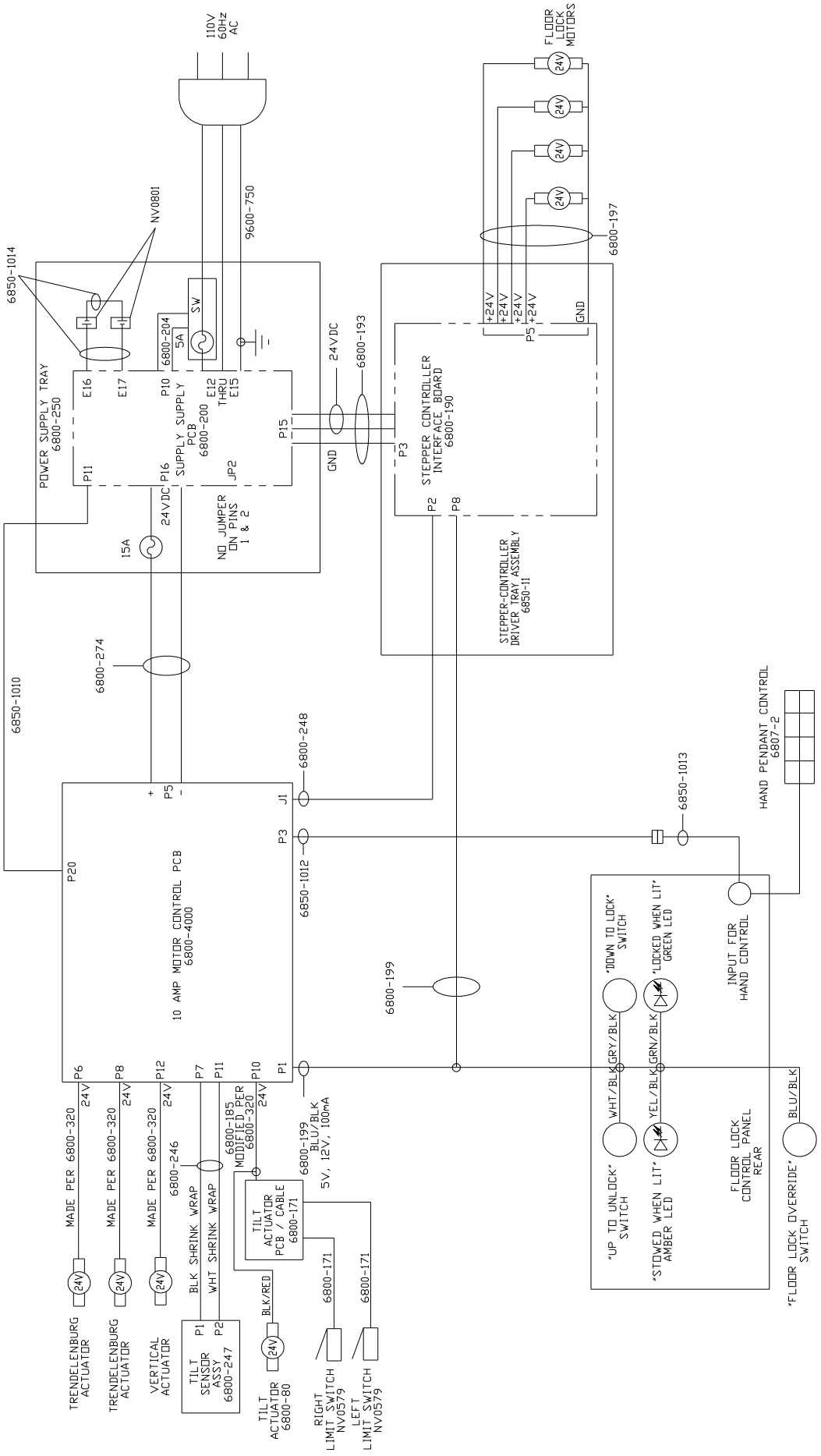
1. Flip <u>on</u> main “ON/OFF” power switch. The switch illuminates, indicating power is in the table.
2. Press and hold “DOWN TO LOCK” button until green "LOCKED WHEN LIT" light illuminates.
3. Raise the tabletop to a comfortable level.
4. Push " LEFT LATERAL ROLL" or "RIGHT LATERAL ROLL" buttons to level tabletop.
5. Push "LEFT LATERAL ROLL" button to lateral roll tabletop more than five degrees.
6. Push "RETURN-TO-LEVEL" button to level tabletop; note degree of level.
7. Push "RIGHT LATERAL ROLL" button to lateral roll tabletop more than five degrees.
8. Push and hold "RETURN-TO-LEVEL" button to level tabletop; note degree of level.
9. Turn the "Tilt Adjust" screw a partial turn.
   NOTE: *Clockwise will stop tabletop more to the right, counter-clockwise will stop tabletop more to the left. Tabletop will overshoot each stopping point, requiring "splitting the difference" to adjust for proper balance.*
10. Test the adjustment by:
    10.1. Push "LEFT LATERAL ROLL" button to tilt tabletop to maximum.
    10.2. Push "RETURN-TO-LEVEL" button to level tabletop; note the degree of level.
    10.3. Push "RIGHT LATERAL ROLL" button to tilt tabletop to maximum.
    10.4. Push "RETURN-TO-LEVEL" button to level tabletop; note the degree of level.
11. Continue adjustments until tabletop stops from either maximum lateral roll at same offset from zero.
12. Trendelenburg / Reverse-Trendelenburg calibration.
    12.1. Repeat steps of "Left and Right Lateral Roll" calibration using "Trendelenburg / Reverse-Trendelenburg".
13. Push the illuminated "ON/OFF" switch to <u>off</u>, green light goes out. Wait 30 seconds for discharge
14. Reattach Left Bell Cover with seven screws using a 1/16-inch hex key.
    CAUTION: Use care replacing this cover to prevent damage to the sensors.
    LA PRUDENCE: le soin d'Usage pour remplacer cette couverture pour empêcher des dommages aux détecteurs.

9.0 TECHNICAL DRAWINGS and PARTS LISTS

9.1 Interconnect Diagram, 120VAC



9.2 Interconnect Diagram, 220VAC



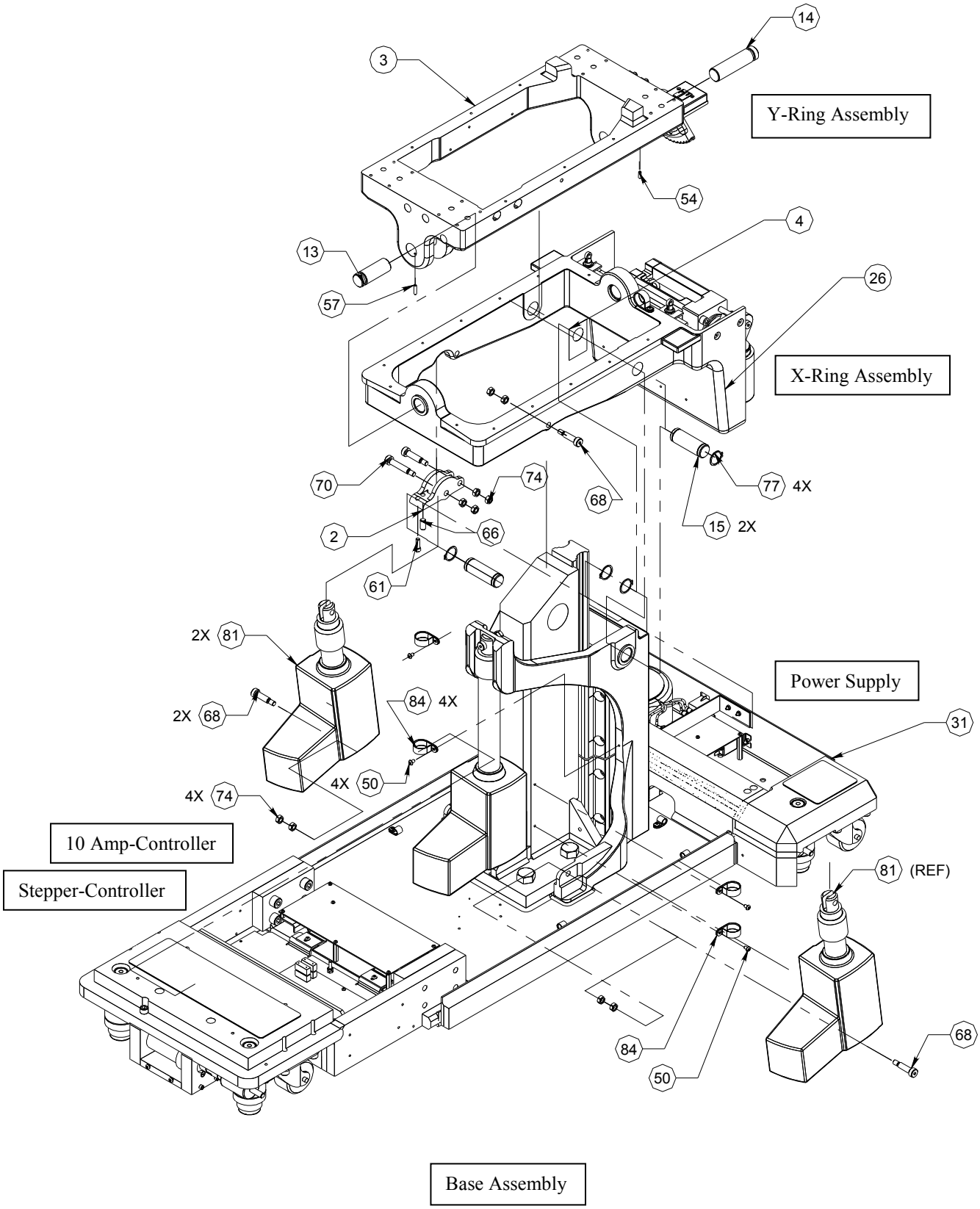
9.3 Table Assembly Bill of Materials

ITEM	PART NO.	DESCRIPTION	QTY
1	6800-7	BASE FEET AND COLUMN SUBASSEMBLY	1
2	6800-37	TRENDELENBURG ADJUSTMENT LEVER, X-RING	1
3	6800-38	Y-RING MACHINED	1
4	6800-54	SHIM, 1.00 DIA PIN	6
5	6800-75	TILT WORM GEAR SHIM, .002	1
6	6800-77	TILT WORM GEAR SHIM, .010	2
7	6800-79	TILT AXIS WORM GEAR	1
8	6800-80	ASSEMBLY, TILT ACTUATOR	1
9	6800-90	SWIVEL BRACKET WELDMENT, TILT	1
10	6800-94	SWIVEL BRACKET ADJUSTMENT BRACKET	1
11	6800-95	PRESSURE PLATE, TILT ACTUATOR MOUNT	1
12	6800-96	SWIVEL BRACKET MOUNT WASHER	2
13	6800-97	PIN, TILT, FRONT	1
14	6800-98	PIN ,TILT, BACK	1
15	6800-99	PIN, TRENDELENBURG	2
16	6800-127	COLUMN SLIDER COVER	1
17	6800-129	COLUMN SKIRT FLOATING	1
18	6800-130	BASE COVER, MID SECTION	1
19	6800-132	BASE COVER, BACK	1
20	6800-133	BASE COVER, FRONT	1
21	6800-173	PC BOARD MOUNT, TILT MOTOR	1
22	6800-174	BRKT, TILT MTR LIM SW MNT	2
23	6800-171	TILT MOTOR LIMIT SWITCH ASSY	1
24	6800-207	FLOOR LOCK LED GREEN	1
25	6800-208	FLOOR LOCK LED YELLOW	1
26	6800-229	X-RING WITH BUSHINGS ASSY	1
27	6800-230	ASSEMBLY, MANUAL FLOOR LOCK CRANK	1
28	6800-239	ASSY, 10 AMP MOTOR CONTROL	1
29	6800-247	TILT SENSOR ASSEMBLY	1
30	6800-249	TILT SENSOR SPACER	1
31	6800-250	POWER SUPPLY TRAY ASSEMBLY	1
32	6840-11	CONTROLLER TRAY ASSEMBLY	1
33	6800-259	BELLOWS	2
34	6800-260	BELLOWS SUPPORT	2
35	6800-262	X-RING COVER, LEFT	1
36	6800-263	X-RING COVER , RIGHT	1
37	6800-267	COLUMN SKIRT, FIXED, LEFT	1
38	6800-268	COLUMN SKIRT, FIXED, RIGHT	1
39	6800-269	TILT COVER, LEFT	1
40	6800-270	TILT COVER, RIGHT	1
41	6800-271	BELLOWS MOUNT	2
42	9650-227	.375 INCH PLASTIC CABLE CLAMP	9
43	9650-231	1/2 IN RUBBER CUSHIONED STEEL LOOP CLAMP	6
44	AAAH018BAC	#4-40 UNC X .188 FLAT HEAD SOCKET SCREW, SS	6
45	AAAH031BAC	#4-40 UNC X .31 FLAT HEAD SOCKET SCREW, SS	16
46	AAAK025AAC	#5-40 X .25 SST BTNHD SKT SCR	4
47	AAAM037CAC	#6-32 X .37 SST CAP HD SKT SCR	1
48	AAAT025AAC	#10-32 X .25 SST BTN HD SKT SCR	4
49	AAAT025HJA	#10-32 X .25 SELF LOCKING SKT SET SCR	2
50	AAAT031AAC	#10-32 X .31 SST BTN HD SKT SCR	24
51	AAAT037AAC	#10-32 X .37 SST BTN HD SKT SCR	51
52	AAAT050AAC	#10-32 X .50 SST BTN HD SKT SCR	10
53	AAAT050BAC	#10-32 X .50 SST FLHD SKT SCR	2
54	AAAT050HAC	#10-32 X .50 SST SKT SET SCR	1
55	AAAT075AAC	#10-32 X .75 SST BTN HD SKT SCR	4
56	9650-431A	CABLE, HANDSET EXTENSION 20 IN	1
57	AAAT075HA	#10-32 X .25 SST SKT SET SCR	1
58	AAAW050BAC	1/4 X 20 FLAT HEAD SOCKET SCREW	4
59	AAAW050CA	SCREW, CAP, HEX, 1/4-20 UNC-2A X .50L	2
60	9600-450	T-CABLE ASSEMBLY, HANDSET	1
61	AAAW075CA	1/4-20 X .75 CAP HD SKT SCR	3
62	AAAW125CA	1/4-20 X 1.25 CAP HD SKT SCR,	2
63	AAAY350DD	5/16 -18 X 3.5 HEX HEAD CAP SCREW	2
64	AABB075CAA	3/8-16 X .75 CAP HD SKT SCR GRADE 8	3
65	AABB175DDA	3/8 -16 X 1.75 HEX HEAD CAP SCREW GRADE 8	1
66	AABB075HA	3/8-16 X .75 SCK SET SCR	1
67	AABF125CA	1/2-13 X1.25 CAP HD SKT SCR	2
68	AAM10030FA	10mm DIA. X 30mm LG, SKT HD SHLDR SCR	3
69	AAM10035FA	10mm DIA. X 35mm LG, SKT HD SHLDR SCR	1
70	AAM10045FA	10mm DIA. X 45mm LG, SKT HD SHLDR SCR	1
71	AC012025	POP RIVET, .12 X .25 LG	8
72	NV0564	CABLE, HANDSET EXTENSION 2.4 M LONG	1
73	ADATA	#10-32 HEX NUT	3
74	MZA30108030	8 mm HEX NUT	10
75	AE018037D	STAR LOCK WASHER, INTERNAL, .18 X .37	3
76	AE019050KF	SHOULDER WASHER #10 NYLON	4
77	AJ0117	RETAINING RING EXTERNAL 1" DIA, BLK PHS	4
78	KA0060400	1/16 X 4 1/2 NEOPRENE RUBBER W/ADH	24 "
79	NB0339	EAGLE PLASTIC NYLON HOLE PLUG Ø1.00	4
80	NG0752	#10-32 PEM SELF CLINCHING SS	8
81	NL1255	ACTUATOR, ELEC., 100mm, LINAK	2
82	NV0259	3/8 IN RUBBER CUSHIONED STEEL LOOP CLAMP	3
83	NV0587	STAINLESS STEEL BUTTON	4
84	NV0650	1 INCH PLASTIC CABLE CLAMP	5
85	6800-185	ACTUATOR POWER CORD	1
86	NV0649	.75 INCH PLASTIC CABLE CLAMP	3
87	9650-225	.25 INCH PLASTIC CABLE CLAMP	1
88	6800-118	TILT WORM GEAR SHIM .OO7 THICK	2
89	6800-119	TILT WORM GEAR SHIM .O239 THICK	2
90	6800-193	CABLE ASSY, PWR SPL TO STEPPER CONTROLER	1
91	6800-197	FLOOR LOCK HARNESS ASSY.	1
92	6800-199	DIGITAL I/O WIRE HARNESS	1
93	6800-246	TILT SENSOR WIRE HARNESS	1
94	6800-248	CABLE ASSY., FLAT RIBBON M-F DB9	1
95	6800-274	10 A MOTOR CONTROL POWER CABLE	1
96	6800-76	TILT WORM GEAR SHIM, .005	1
97	NV0630	CONNECTOR HOUSING , MALE , 8 CIRCUIT 39-01-2080	4
98	NV0711	MOLEX SOCKET CRIMP 28-22 AWG	16

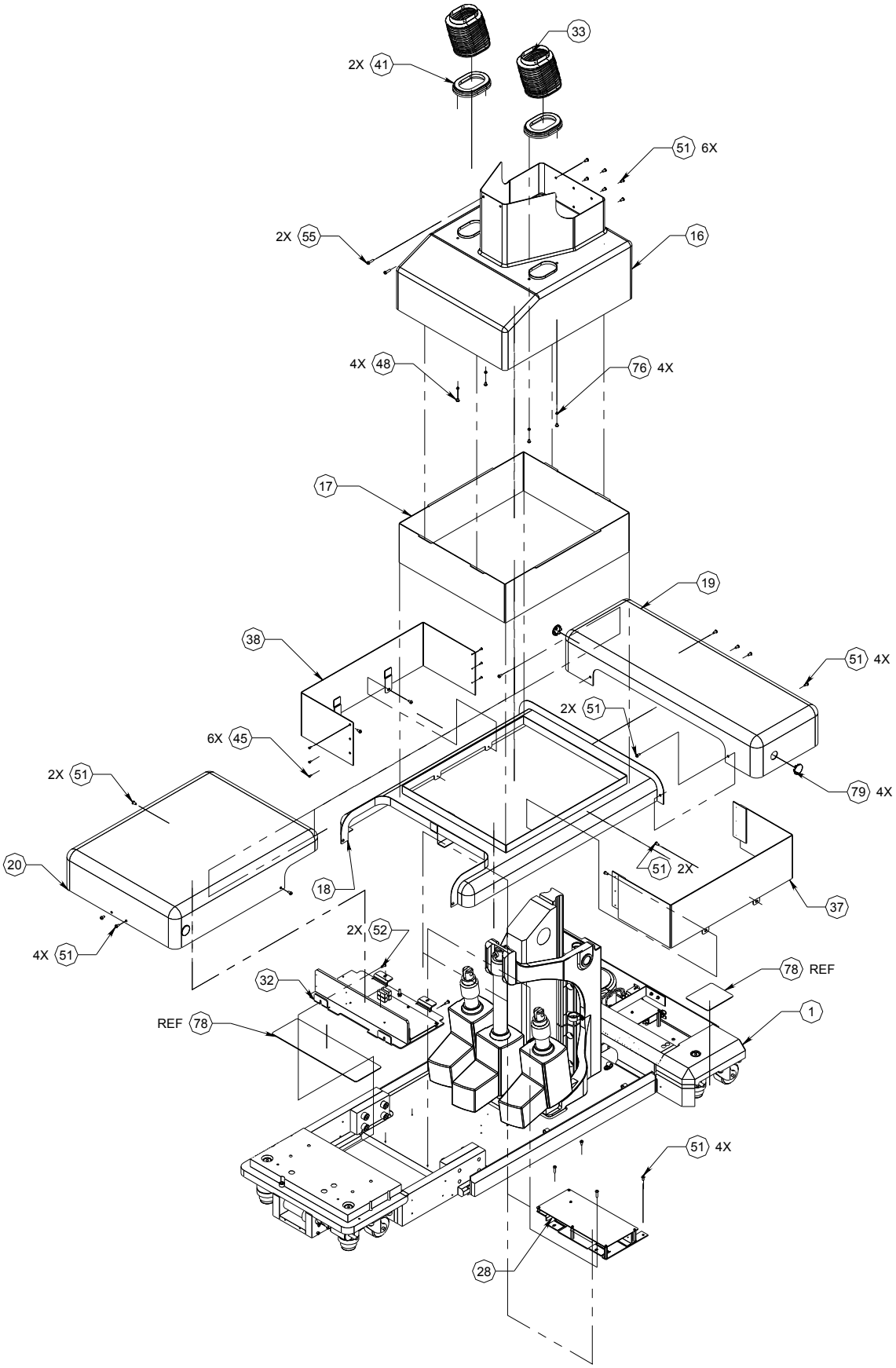
9.4 Replacement / Spare Parts List

Hand Control……..……..……..p/n (part number) 6800-238
Power Supply Tray Assembly……..……..……..……p/n 6800-250
Power Cord, Right Angle……....……..……..…p/n 9600-750
Power Cord Receptacle……..……..……..p/n NV0585
LED (Light Assembly), Amber……..……...……..p/n 6800-208
LED (Light Assembly), Green……..……..……...……p/n 6800-207
Floor Lock Assembly……..……..…..p/n 6800-210
Floor Lock Pad……..……..……...….p/n MCZ700004B0
10 Amp Motor-Controller PCB Assembly……..……...…..….p/n 6800-239
Stepper-Controller/Driver PCB Tray Assembly……..……..p/n 6840-11
Tilt Actuator Motor Assembly……..……..……..……p/n 6800-80
Tilt Sensor Assembly……..……p/n 6800-247
Emergency Backup Battery (two required)……..……..….p/n NV0801

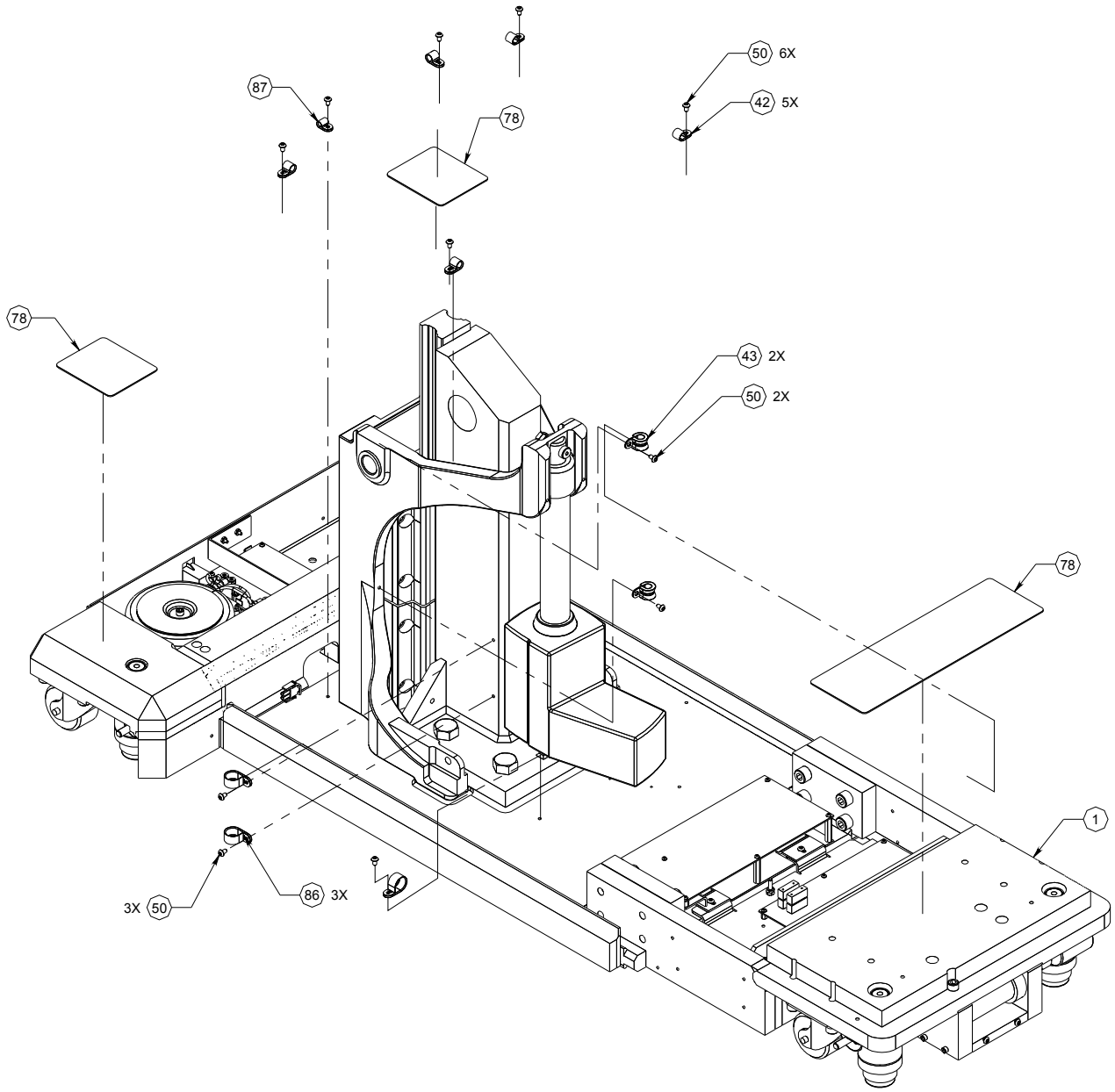
9.5 Table Assembly Exploded View



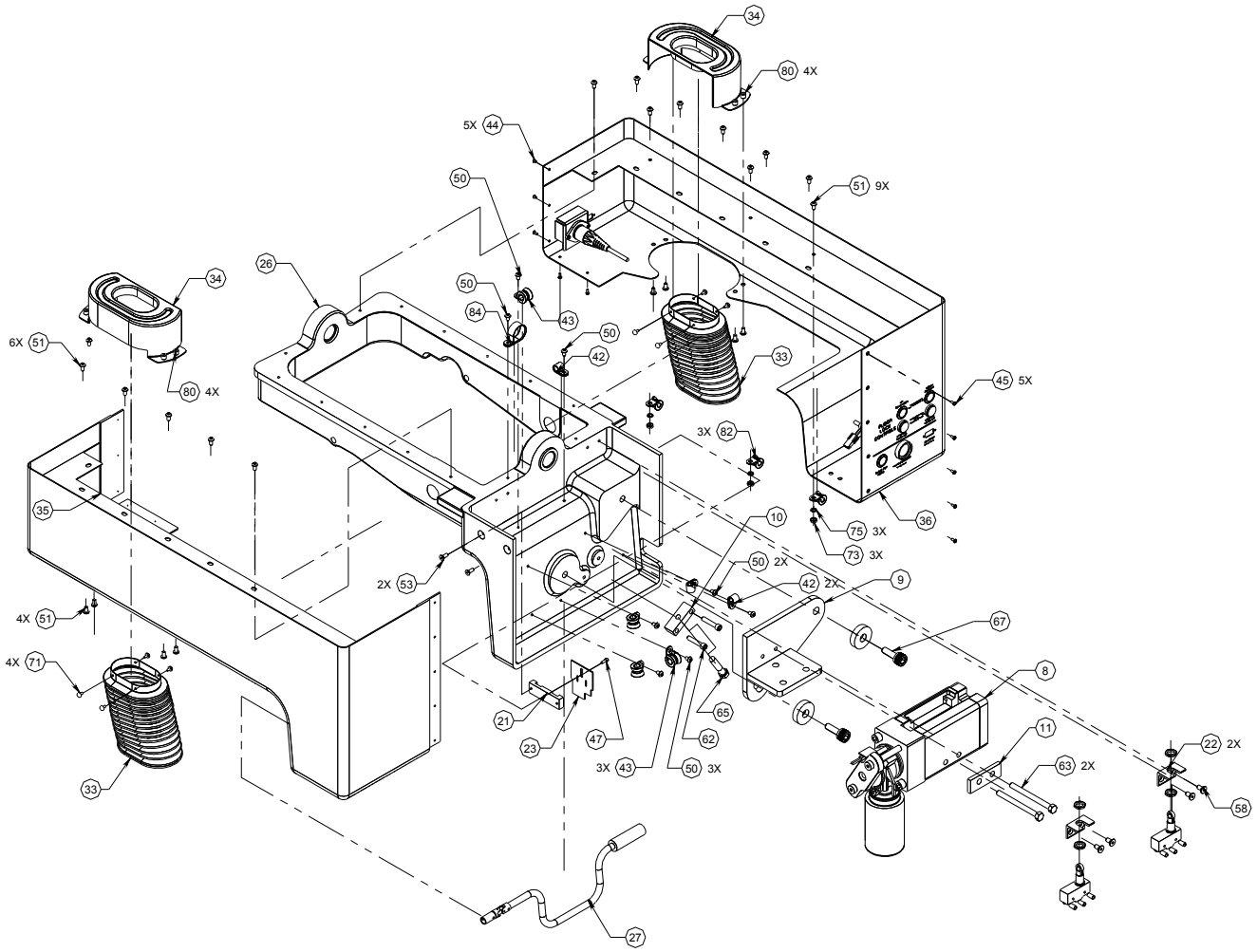
9.6 Base Cover Assembly, Exploded View



9.7 Base Assembly, Exploded View



9.8 X-Ring Assembly Exploded View



10.0 GLOSSARY OF TERMS

Basic assumptions of patient orientation on the tabletop: our glossary of terms and technical procedures assume the patient is normally oriented with their head at the “head end of table” (toward Control Panel) and their feet at the “foot end of table” (toward Leg Spars). The Hand Control functions are oriented for this position only.

“Head end of table” refers to the end of the table where the power cord, "ON/OFF" power switch, and Control Panel are located; otherwise referred to as the “pedestal end”.

“Foot end of table” refers to the opposite end of the table also referred to the “leg spar end".

“Control Panel” is a panel of buttons and lights located on the head end of the table.

“Pedestal” refers to the main column structure that supports the tabletop.

“Left side of the table” refers to the table as you stand at the head end of table.
This also corresponds to the Hand Control button labeled “LEFT LATERAL ROLL”.

“Right side of the table refers to the table as you stand at the head end of table.
This also corresponds to the Hand Control button labeled “RIGHT LATERAL ROLL”.

“Raise the table” refers to raising the height of the table.
This also corresponds to the Hand Control button labeled “HEIGHT UP”.

“Lower the table” refers to lowering the height of the table.
This also corresponds to the Hand Control button labeled “HEIGHT DOWN”.

“Raise the foot end of the table” refers to raising the height of the foot end of the tabletop or leg spars. The corresponding Hand Control button is labeled “TREN” (Trendelenburg).

“Raise the head end of the table” refers to raising the height of the head end of the tabletop.
The corresponding Hand Control button is labeled “REV TREN” (Reverse Trendelenburg).

“Level the table” refers to leveling the tabletop regardless of height. The corresponding Hand Control button is labeled “RETURN TO LEVEL”. Holding the “RETURN TO LEVEL” button longer than approximately three seconds will also lower the tabletop to its lowest position.

"Lock the floor locks" refers to lowering the floor locks. The floor locks, when locked down, will prevent the table from rolling and enable all other table functions. The corresponding Hand Control button is "FLOOR LOCK" and the "FLOOR LOCK ON" light will illuminate or Control Panel button is labeled “DOWN TO LOCK” and the green "LOCKED WHEN LIT" light will illuminate.

“Unlock the floor locks” refers to rising the floor locks up 1/2-inch off the floor, allowing the table to freely roll on its wheels. The corresponding Hand Control button is "FLOOR UNLOCK" and the "FLOOR LOCK STOWED" light will illuminate or Control Panel button is labeled “UP TO UNLOCK” and the amber "STOWED WHEN LIT" light will illuminate.

“Hospital Grade" outlet refers to a 120VAC outlet properly wired with earth ground: Neutral to Common = 120VAC; Neutral to Ground = 120VAC; Common to Ground less than zero point five (0.5) VAC.

11.0 OSI TECHNICAL SERVICE

11.1 Contact for Parts and Service:

For detailed repair information or to order replacement parts, call the OSI Technical Services Department:

A Technical Services representative is available from 7AM-5PM PST, Monday through Friday. Please leave a message before or after business hours.
Please state; your name, phone number, facility name and city, affected equipment model number and nature of problem.

OSI Telephone: **800-777-4674**
An e-mail message may be left anytime at **techsvcs@osisosi.com** or through the Technical Service icon in our web site: **www.osiosi.com**.

To order Replacement Parts (RP):
If unable to identify part - telephone, fax or E-mail to Technical Service.
If part is known - telephone, fax or E-mail part number and description to Customer Service for price and availability.
To place Replacement Parts (RP) order - telephone, fax or E-mail part number, description, price, customer number and method of shipment to Customer Service with purchase order. Indicate that order is for Replacement Parts (RP).

To return damaged parts (RGA):
Identify parts to be returned.
Telephone, fax or E-mail part number and description of parts for return to Customer Service for Return Goods Authorization (RGA) number and Certificate of Disinfection.
Return ship parts with RGA number clearly marked on outside of package.
Clean (disinfect) parts prior to shipping.

To send a part or item for OSI to repair (RA):
If unable to identify part - call, fax or E-mail to Technical Service.
If part is known - telephone, fax or E-mail part number and description to Technical Service for Repair Authorization (RA) number and Certificate of Disinfection.
Clean (disinfect) parts prior to shipping.
Ship part with RA number clearly marked on outside of package.
Part will be evaluated and customer will be contacted with the cost of repair.
After customer approval of repair cost, part will be repaired and return shipped to customer.

End